

Work Order ID 72775

Friday, August 12, 2011 2:36:08 PM

Page 1

Item ID: D206-667-101

Accept

Setup Start

Revision ID:

Stop

Item Name: Crosstube Fwd

Start Date: 8/12/2011 Start Qty: 1.00

Cust Item ID:

Required Date: 8/19/2011 Req'd Qty: 1.00

Customer:

Reference:

Run Start

Approvals: Process Plan:

Date: 11-8-12

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject -
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D206-667-141

Rev C (DEO)

DS19565

A

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile and create labels as per PPP D206-667-101 CHG004

Salor/09

MF 11-9-8

110

0.00



Packaging

Packaging

Memo

0.00

Packaging

11-8-22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 CNC Bend I CNC Delta 100 Bender	BENDING MACHINE - CROSSTUBES Memo Bend tube as per Dwg D206-667-141 using CNC bender program 206B-fw and Folio FT _____	0.00 0.00							
130 QC Quality Control	QC15- Crosstube Dimensional Check Memo	0.00 0.00							

DP

11-8-22

5 w/02/23

(40)

W/O:		WORK ORDER CHANGES					
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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140

0.00



Crosstubes

Crosstubes

Memo

0.00

Crosstubes

1-Drill holes & ream using drill Jig DT8541 & DT8542 as per Dwg D206-667-141. Drill all (3) top holes.

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT8541 & DT8542 as per Dwg D206-667-141. Drill only the top (2) holes.

5-Drill pilot holes as per Dwg D206-667-141. Drill only the top (2) holes.

6-Drill Fwd rivet holes using drill Jig DT8787FWD as per Dwg D206-667-141. Note: Fwd side has 3x top holes.

7-Drill Aft rivet holes using drill Jig DT8787AFT as per Dwg D206-667-141.

8-C'sink holes as per Dwg D206-667-141. Allow rivet to sit below surface to compensate for paint.

9-Scribe part # and batch # using vibrating stylus as per Dwg D206-667-141. Inside of Cuff (Do not engrave on outside of tube)

10-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-141

JW
SAD 11-08-24

SAD 11-08-24

W/O:		WORK ORDER CHANGES					
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

Crosstubes Chemical Conversion

0.00



HandFXtube

Memo

0.00

Hand Finishing Crosstubes

SAD 11-08-24



160

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

8 w/08/25

170

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

8 w/08/25



W/O:		WORK ORDER CHANGES					
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Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180  Outsource2	Outsource process - NDT per QSI038 4.1	0.00							
	Memo	0.00							CY 11/08/29 ①
	Outsource process - NDT								
	Liquid Penetrant Inspection as per QSI 038Or Issue P/O: 14748 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order								
190  Packaging	Packaging	0.00							
	Memo	0.00							CY 11/08/29 ①
	Ensure copy of NDT results attached to work order.								
200  QC	QC5- Inspect part completeness to step on W/O	0.00							
	Memo	0.00							ml 11-08 29 ①
	Quality Control								
	Inspect for damage & ensure results are as per Dwg D206-667-103								

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

QC: Date: SPC (Y/N): Date:

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

210



SprayPaint

Spray Painting

SprayPaint

Memo

0.00

1-Prime inside and outside crosstube as per QSI 005 4.2.1

*****Let tube sit up right for 30mins before hanging*****

P4500-P-23 Base Batch: 117609

P4500-C-23 Catalist Batch: 117609

Start time: 8:00 Finish: 4:00

11 09 01 (1)

220



QC

Quality Control

QC14- Inspect Spray Paint

0.00



Memo

0.00

Wrap in plastic bag to protect from scratches

not required

P10

W/O: 72775		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
11.09.01	220	Remove step 220 Permanent Change	NA	11.09.14		 G. 220	 11.09.01

Part No: D206-667-101 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Cust Item ID:

Required Date: 8/19/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
230	SprayPaint	0.00							
	SprayPaint	0.00							
Spray Painting	Memo								
	1-Paint outside crosstube with White Imron as per QSI 005								
	4.2								
	Imron 55U white paint	Batch: 118341							
	Imron 125S activator	Batch: 118662							
	Start: 12:30 Finish: 2:00								
240	QC14- Inspect Spray Paint	0.00							
	QC	0.00							
Quality Control	Memo								

M 11 09 01 ①

RT 11 -02 -02

W/O:		WORK ORDER CHANGES					
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Run Start

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Stop

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Operation Description

Set Up/ Run Hours

Tool ID

Tool #

Plan
Code

**Accept
Qty**

Reject
QtyReject
Number

Insp.
Stamp

250

0.00

[illegible]

Crosstubes

Crosstubes

Memo

0.00

Crosstubes

1-Abrade mating surfaces of support and crosstube with 400 grit sandpaper, clean the area with 4105S wash 'n' wipe

2-Install supports with Proseal 890 per DSI9565 and QSI 015

A/R Proseal 890 Batch: 118234

3- Torque bolts as per dwg

3-Install nut plates as per Dwg D206-667-141. Touch-up rivet heads with Imron paint.

260

QC5- Inspect part completeness to step on W/O

0.00

[illegible]

QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

270

Pick Kit

0.00



Packaging

Memo

0.00

Packaging

280

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

290

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D206-667-101

Location: _____

PPP Rev: A

SD

SP 11-09-08

84609109

11/9/13

P

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

300

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/9/14

ME
11-09-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Picklist Print

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Page 1

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Work Order ID: 72775

Parent Item: D206-667-101

Parent Item Name: Crosstube Fwd

Start Date: 8/12/2011

Required Date: 8/19/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:F 05.09.01 Add holes for compatibility with Bell Skidtubes KJ/JLM
 IPP Rev:G 08-06-03 update as per DSI9415 (ECN1198) DD verified by:ec
 IPP Rev:H 08-07-28 update as per (par 08-013) DD verified by:EC
 IPP Rev J 09.01.06 Per ECN 08-562 EC verified by:DD IPP REV:K
 11.08.05 PER ECN 11-615 DD VERF:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2873-043 Nut Plate Assembly		Manufactured	No			250	Each	16.0000	2	2		11/09/07	

Location Loc Qty Loc Code

LG 16
 72248 16

D2873-045 Nut Plate Assembly		Manufactured	No			250	Each	11.0000	2	2		11/09/07	
---------------------------------	--	--------------	----	--	--	-----	------	---------	---	---	--	----------	--

Location Loc Qty Loc Code

LG 11
 71983 11

D2891-1 2.25 Support		Manufactured	No			250	Each	0.0000	2	2		11/09/06	
D3595-063-395 RUBBER CUSHION		Manufactured	No			250	Each	109.0000	4	4		11/09/06	

Location Loc Qty Loc Code

LG 108
 70975 108
 LG055 1
 63368 1

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Start Date: 8/12/2011

Required Date: 8/19/2011

Start Qty: 1.00

Required Qty: 1.00

MS20601-AD4W8

Purchased

No

250

Each

271.0000

14

14



RIVET

Location

Loc Qty

Loc Code

LG

100

108521

100

LG051

171

117106

7

117381

3

117979

3

118454

58

118572

100

AN5-30A

Purchased

No

270

Each

76.0000

4

4



BOLT

Location

Loc Qty

Loc Code

ST339

76

116003

2

117514

29

118191

25

118451

20

AN5-32A

Purchased

No

270

Each

188.0000

4

4



Bolt

Location

Loc Qty

Loc Code

ST340

188

117161

1

117514

27

117872

60

118191

50

118422

50

11/09/07

Sp11-09-08

Sp11-09-08

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Shop Packet Print

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Required Date: 8/19/2011

Start Qty: 1.00

Required Qty: 1.00

AN5-7A

Purchased

No

270

Each

187.0000

10 10



Bolt



SP 11-09-08

Location

Loc Qty

Loc Code

ST337

187

117313

14

117441

150

118422

23

10X

AN960JD516

NAS1149D0563J

Purchased

No

270

Each

0.0000

18 18



Washer

MS21042L5

Purchased

No

270

Each

1,205.000

4 4



Nut



SP 11-09-08

Location

Loc Qty

Loc Code

ST300

1205

116105

5

116548

53

117441

498

117591

63

117611

90

118179

496

4X

MS21920-20

Purchased

No

270

Each

68.0000

4 4



Clamp (per MIL-DTL-8783C)



SP 11-09-08

Location

Loc Qty

Loc Code

LG050

68

116799

10

117279

16

118236

42

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Shop Packet Print

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Parent Item Name: Crosstube Fwd

Start Date: 8/12/2011

Required Date: 8/19/2011

Start Qty: 1.00

Required Qty: 1.00

D206-667-101TRN

Manufactured No

110

Each

4.0000

1

1



Crosstube Turning Detail

Location

Loc Qty

Loc Code

LG003

4

50518

1

50519

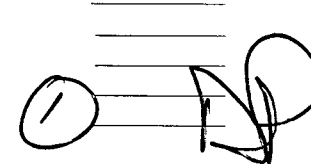
1

54009

1

54010

1



11-8-22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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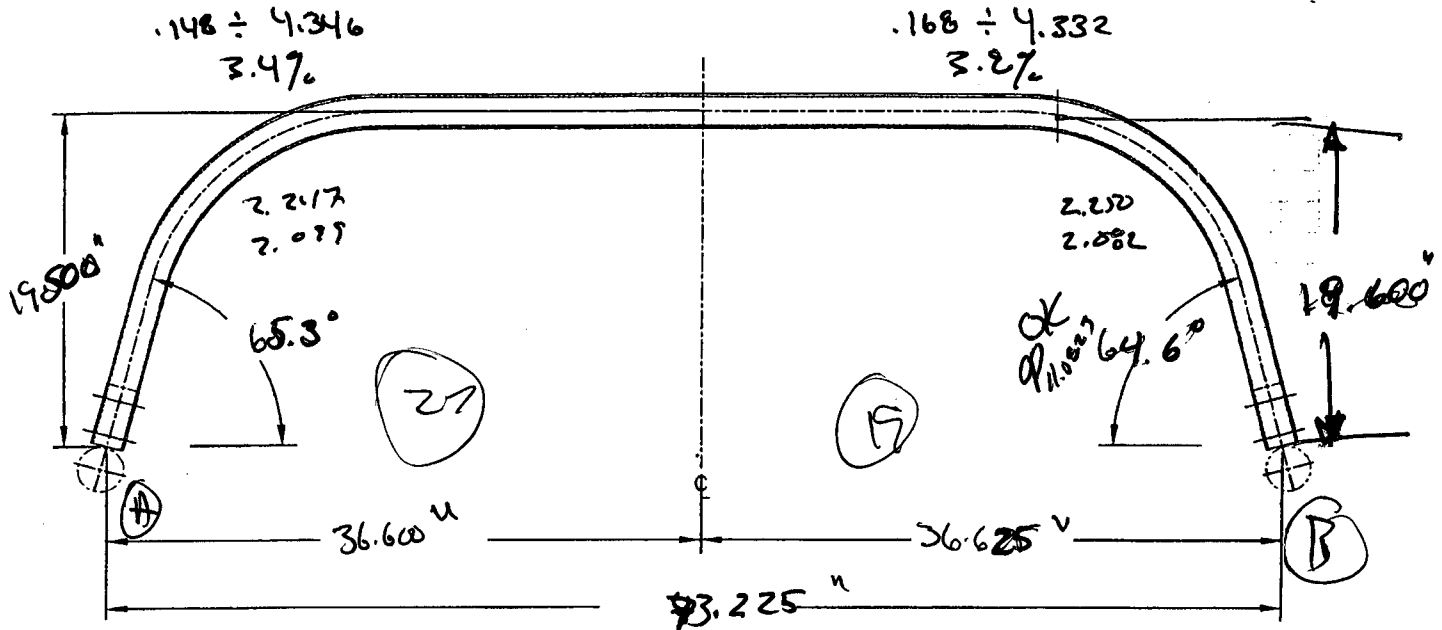
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NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	12778
Description: Crosstube High Fwd (206B)		Part Number:	D206-667-101
Inspection Dwg: D206-667-141 Rev: C		Page 1 of 1	

Required Dimension	Min	Max
Height	19.41	19.67
1/2 Span	36.47	36.73
Angle	65	67
Total Span	72.94	73.46



Comments
Side A = 3.47% crushing @ 22 Passes
Side B = 3.87% crushing @ 19 Passes
One angle below tol, Acceptable @ 11.0823 @ PSI 042

QC15 Inspection	8
Date	11/06/23

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	09.07.30	Dimensions revised per Dwg Rev C	KJ	



Item	Qty -141	Part Number	Description
1	X	D206-667-141	CROSSTUBE ASSEMBLY (206B HIGH FWD)
2	1	D6001-105	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2891-1	SUPPORT
6	4	D3595-063-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20601AD4W8	RIVET (OR NAS9302B-4-8)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6001-105
FINISHED LENGTH = 93.18±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-141" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 11.3 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 12 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-063-395 RUBBER CUSHIONS TO SECURE THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 72775

DEO ATTACHED

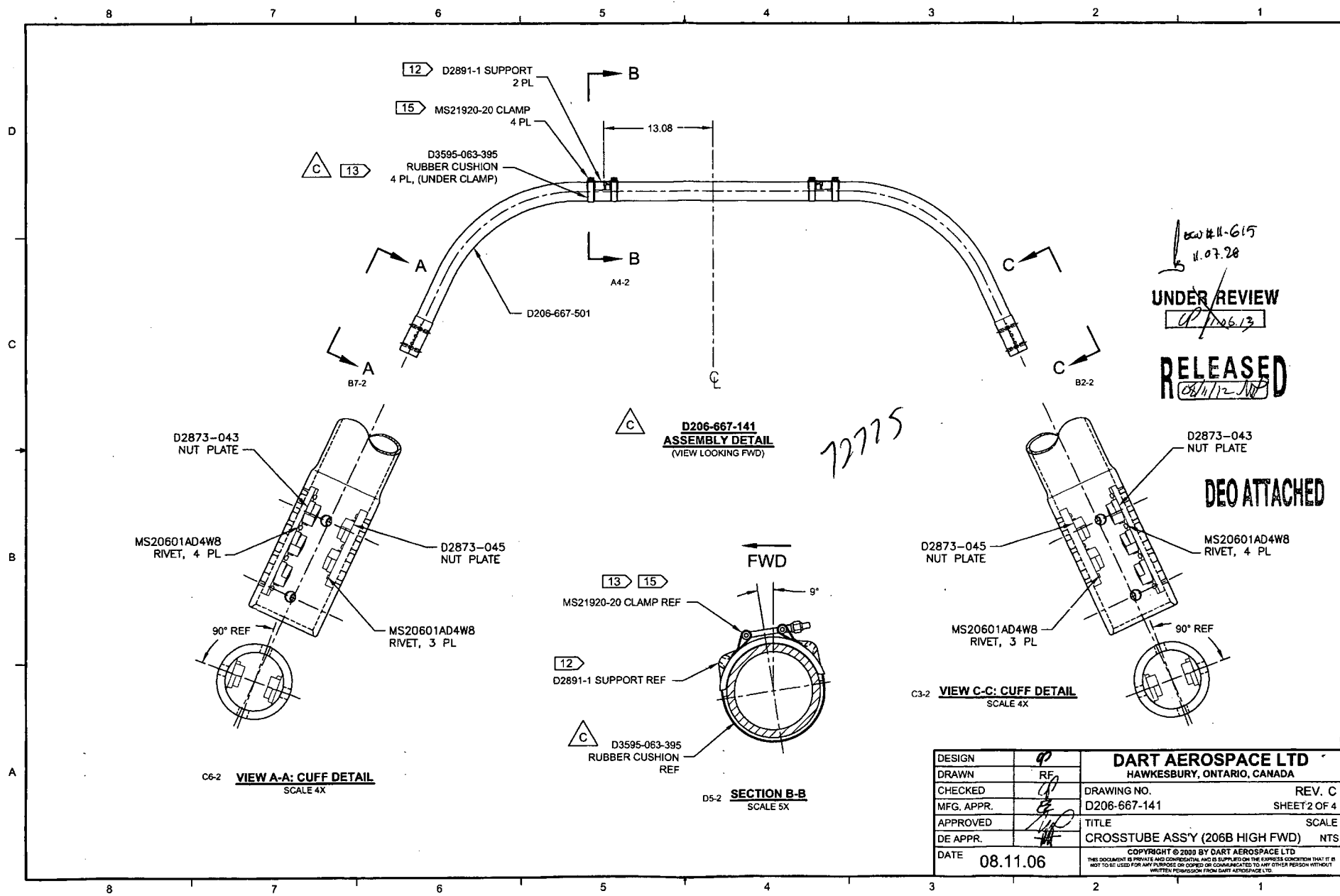
PCW#11-615
11.07.26

UNDER REVIEW

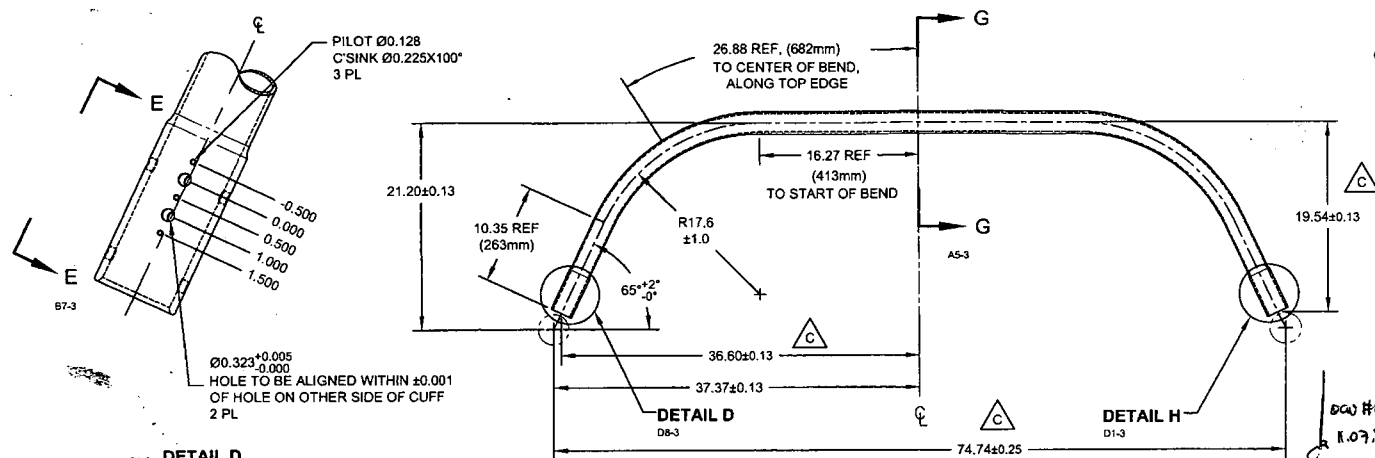
RELEASED
08/11/12/14/16

C	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-395 WAS D2856-400-694 (ZN D6-2 & A5-2); REMOVED REF. & ADD TOLERANCES (ZN C4-3, C5-3 & D3-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKUDTUBES	PH	05.07.26
A	NEW ISSUE	CP	00.11.17
REV.	DESCRIPTION	BY	DATE
DESIGN	RF		
DRAWN	RF		
CHECKED	RF		
MFG. APPR.	RF		
APPROVED	RF		
DE APPR.	RF		
DATE	08.11.06		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D206-667-141	REV. C SHEET 1 OF 4
TITLE CROSSTUBE ASS'Y (206B HIGH FWD)	SCALE NTS
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DESIGN	9	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	1	DRAWING NO.	REV. C
MFG. APPR.	2	D206-667-141	SHEET 2 OF 4
APPROVED	3	TITLE	SCALE
DE APPR.	4	CROSSTUBE ASS'Y (206B HIGH FWD)	NTS
DATE	08.11.06	<small>COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	



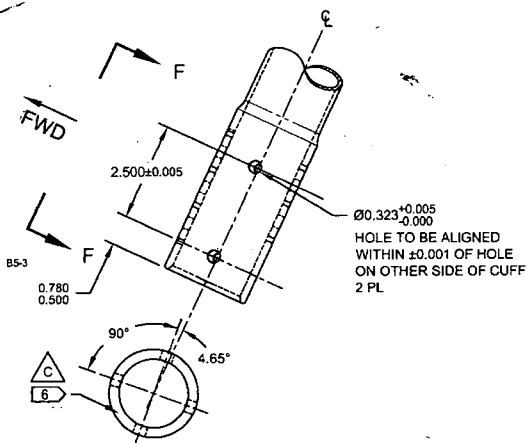
C8-3 **DETAIL D**
SCALE 4X
(VIEW LOOKING FWD)

D206-667-501
BENDING AND DRILLING DETAIL
(VIEW LOOKING FWD)

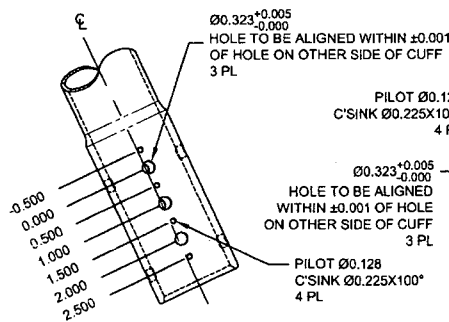
UNDER REVIEW
11/10/13

DEO ATTACHED
RELEASED
08/11/12

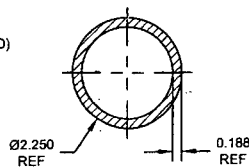
C3-3 **DETAIL H**
SCALE 4X
(VIEW LOOKING FWD)



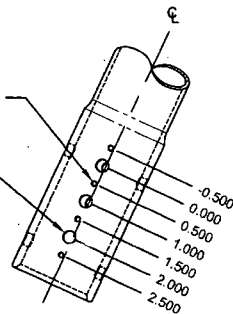
D8-3 **VIEW E-E:**
CUFF DETAIL
SCALE 4X



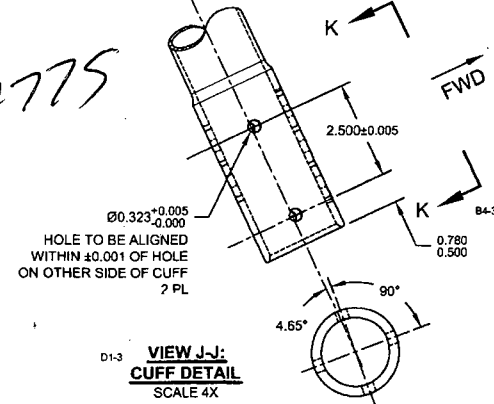
B7-3 **VIEW F-F**
(VIEW LOOKING AFT, ROTATED)



D4-3 **SECTION G-G**
SCALE 5X



B2-3 **VIEW K-K**
(VIEW LOOKING AFT, ROTATED)



D1-3 **VIEW J-J:**
CUFF DETAIL
SCALE 4X

DESIGN	9	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. C
MFG. APPR.	RF	D206-667-141	SHEET 3 OF 4
APPROVED	RF	TITLE	SCALE
DE APPR.	RF	CROSSTUBE ASS'Y (206B HIGH FWD)	NTS
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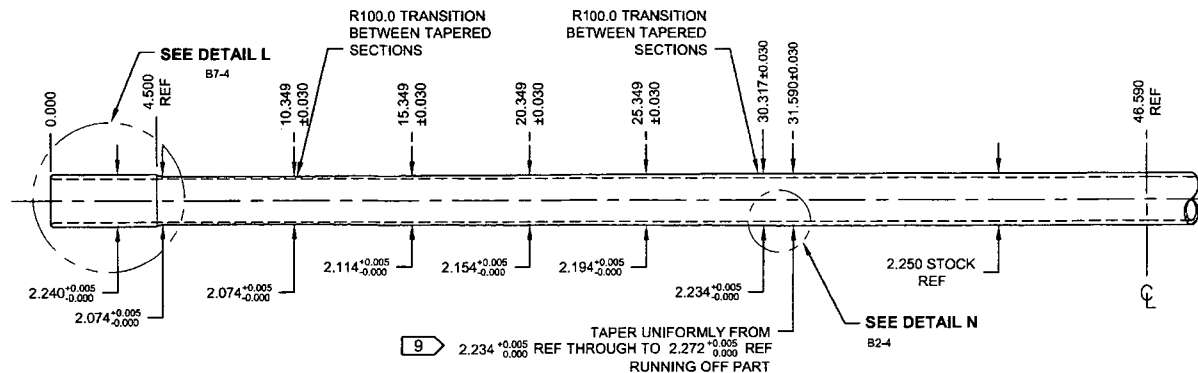
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D

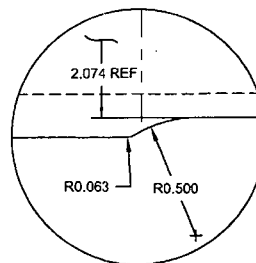
C

B

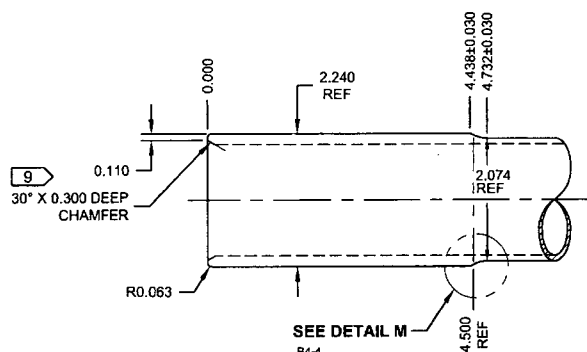
A



TURNING DETAIL



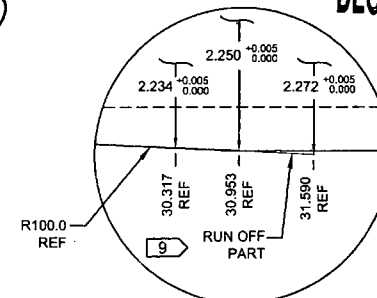
**DETAIL M:
CUFF TRANSITION**
A6-4 NOT TO SCALE



**DETAIL L:
CROSSTUBE CUFF**
D7-4 NOT TO SCALE

BCW #11-015
11.07.18
UNDER REVIEW
4/11/2013

DEO ATTACHED



**DETAIL N:
TAPER RUN-OFF**
C4-4 NOT TO SCALE

RELEASED
08/11/12/14

DESIGN	9	DART AEROSPACE LTD
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA
CHECKED	4	DRAWING NO. REV. C
MFG. APPR.	8	D206-667-141 SHEET 4 OF 4
APPROVED	4	TITLE SCALE
DE APPR.	4	CROSSTUBE ASS'Y (206B HIGH FWD) NTS
DATE	08.11.06	COPYRIGHT © 2006 BY DART AEROSPACE LTD
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DRAWING NO. D206-667-141	TITLE CROSSTUBE ASS'Y (206B HIGH FWD)	REV. C	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D206-667-141-C-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>q</i>	CHECKED <i>ASS</i>	MFG. APPR. <i>MD</i>	APPROVED <i>MD</i>		DE APPR. <i>MD</i>		
DATE 11.07.15	DATE 11.07.20	DATE 11.07.21	DATE 11/07/21		DATE 11.07.21		

PURPOSE:

REPLACE MAGNOBOND WITH PROSEAL.

CHANGE:

IS:

Item	Qty -141	Part Number	Description
9	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

WAS:

9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
---	-----	----------------	---

NOTE 12 & 15, SHEET 1 IS AMENDED AS FOLLOWS:

IS:

- 12) TO INSTALL D2891-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. **PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.**

WAS:

- 12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

RELEASED
2011-07-28
MD

5.0 PARTS LIST

5.1 HIGH GEAR CROSSTUBES

Item	Qty -101	Qty -201	Qty -103	Qty -203	Qty -105	Qty -205	Part Number	Description
	X						D206-667-101	CROSSTUBE INSTALLATION, 206A/B HIGH FWD
		X					D206-667-201	CROSSTUBE INSTALLATION, 206A/B HIGH AFT
			X				D206-667-103	CROSSTUBE INSTALLATION, 206L/L-1/L-3/L-4 HIGH FWD
				X			D206-667-203	CROSSTUBE INSTALLATION, 206L/L-1/L-3/L-4 HIGH AFT
					X		D407-667-105	CROSSTUBE INSTALLATION, 407 HIGH FWD
						X	D407-667-205	CROSSTUBE INSTALLATION, 407 HIGH AFT
1	1						D206-667-141	CROSSTUBE ASSEMBLY, 206A/B HIGH FWD
2		1					D206-667-241	CROSSTUBE ASSEMBLY, 206A/B HIGH AFT
3			1				D206-667-143	CROSSTUBE ASSEMBLY, 206L/L-1/L-3/L-4 HIGH FWD
4				1			D206-667-243	CROSSTUBE ASSEMBLY, 206L/L-1/L-3/L-4 HIGH AFT
5					1		D407-667-145	CROSSTUBE ASSEMBLY, 407 HIGH FWD
6						1	D407-667-245	CROSSTUBE ASSEMBLY, 407 HIGH AFT
10	*2	*2	*2		*2		D2891-1	SUPPORT
11				*2			D2892-1	SUPPORT
12						*1	D2894-1	SUPPORT
13	*4	*4	*4		*4		D3595-063-395	RUBBER CUSHION
14				*4			D3595-063-450	RUBBER CUSHION
15						*2	D3595-075-430	RUBBER CUSHION
16	*4	*4	*4		*4		MS21920-20	CLAMP
17				*4		*4	MS21920-22	CLAMP
18						*2	MS21920-25	CLAMP (OR MS21920-24)
19	4	4	4		4		AN5-32A	BOLT
20				4		4	AN5-34A	BOLT
21	4	4	4	4	4	4	MS21042L5	NUT (OR MS21042-5)
22	8	8	8	.8	8	8	NAS1149C0563J	WASHER (OR AN960JD516)
23						*2	D3190-1	CHAFING SHIELD
40	*2		*2	*2	*2	*2	D2873-043	NUT PLATE
41	*2		*2	*2	*2	*2	D2873-045	NUT PLATE
42		2					D2872-043	NUT PLATE
43		2					D2872-045	NUT PLATE
44	10		10				AN5-7A	BOLT
45		10		10	10	10	AN5-10A	BOLT
46	4	10	4		4		AN5-30A	BOLT
47				4		4	AN5-32A	BOLT
48			12				AN970-4	WASHER (OPTIONAL)
49		6					MS21042L5	NUT (OR MS21042-5)
50	10	12	10	10	10	10	NAS1149C0563J	WASHER (OR AN960JD516)
60		1					D3039-3	CENTER DRILL (TOOLING, NOT INSTALLED)

*REFERENCE ONLY. PARTS ARE INCLUDED IN D206-667-141/-143/-241/-243 & D407-667-145/-245
ASSEMBLIES ABOVE

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Revision: D
Date: 11.05.01



LIQUID PENETRANT TEST REPORT

P- 05629

CLIENT

ATTENTION

ADDRESS

PROJECT

ITEM(S) EXAMINED

DATE

ACUREN JOB NO.

PO/NO NO.

WORK LOCATION

ACCEPTANCE STD.

PAGE

OF

TIME

AM

PM

JOB DESCRIPTION

PROCEDURE NO. LT-002 REV./DATE 2007

TECHNIQUE NO. LT-002 REV./DATE 2007

PART NO.

MATERIAL

THICKNESS

SCOPE

TEST DETAILS

METHOD

FAMILY BRAND

PENETRANT

PENETRANT REMOVER

DEVELOPER

DEVELOPER TYPE

☒ FLUORESCENT☐ VISIBLE☒ WATER WASH☐ SOLVENT REMOVABLE☐ POST EMULSIFIED

BLACK LIGHT S/N 13798

☐ OUTPUT > 1000 μ W/cm²☐ AMBIENT < 2 fcLIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE

OTHER

LIGHT METER S/N

CAL DUE DATE Aug/2012

TEST SURFACE

SURFACE CONDITION

☐ AS GROUND☐ AS WELDED☐ MACHINED☐ SHOT BLASTED☒ CLEAN BARE METALSURFACE TEMPERATURE ☐ < -4°C/ 20°F☐ -4°C/ 20°F TO 10°C/50°F☒ 10°C/50°F TO 52°C/125°F☐ > 52°C/125°F

RESULTS-

☐ METRIC ☐ IMPERIAL

Crosstabe W.O. ID 69579 ✓
69580 ✓
72774 ✓
72775 ✓
72776 ✓
72777 ✓

ITEM ID D206-667-203 AFT
D206-667-203 AFT
D206-667-101 FWD
D206-667-101 FWD
D206-667-201 AFT
D206-667-201 AFT

NO RELEVANT INDICATION WAS DETECTED
AS PER APPLICABLE STANDARDS.

11.08.29

Scope of Services

The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care

In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES

CLIENT REPRESENTATIVE

TECHNICIAN (SIGNATURE):

NAME (PRINT):

DTR # E44722

REPORT

REVIEWED BY:

NAME

INITIALS

CGSB LEVEL

SNT LEVEL

CGSB LEVEL

SNT LEVEL

CGSB REG. No

CGSB REG. No

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PT Sept 2005